

[0094] Embodiments of the present invention may be related to an electronic device (e.g., a mobile device) that includes a foldable display. In example embodiments, embodiments of the present invention may be related to one or more of a cellular phone, a smart phone, a smart pad, a personal digital assistants (PDA), a portable multimedia player (PMP), an MP3 player, a television, a computer monitor, a laptop, a digital camera, a camcorder, a game console, etc.

[0095] The foregoing is illustrative of example embodiments of the present invention and is not to be construed as limiting. Although a few example embodiments have been described, those skilled in the art will readily appreciate that many modifications are possible in the example embodiments without materially departing from the novel teachings and advantages of the present invention. All such modifications are intended to be included within the scope of the present invention as defined in the claims.

What is claimed is:

1. A display device comprising:
 - a foldable display member including a first portion, a second portion, and a bendable portion, wherein the first portion is connected through the bendable portion to the second portion;
 - a first controllable member overlapping the bendable portion; and
 - a control unit connected to the first controllable member and configured to provide a first signal to control a size of the first controllable member according to a magnitude of an angle between the first portion and the second portion.
2. The display device of claim 1, wherein the first signal is configured to control the first controllable member to enlarge if the angle is reduced, and wherein the first signal is configured to control the first controllable member to contract if the angle is enlarged.
3. The display device of claim 1, wherein the first signal is a voltage.
4. The display device of claim 1, wherein the control unit is further configured to determine a value of the first signal according to a surface condition of the bendable portion.
5. The display device of claim 1, further comprising: a memory device storing a mapping relation between values of the first signal and magnitudes of the angle, wherein the control unit is configured to determine a value of the first signal using the mapping relation.
6. The display device of claim 5, wherein the memory device is configured to update the mapping relation according to degradation of the bendable portion.
7. The display device of claim 1, wherein the first controllable member includes a first terminal and a second terminal, wherein the first terminal is electrically connected to the control unit, and wherein the second terminal is electrically connected to a ground.
8. The display device of claim 7, wherein the first terminal is electrically connected through a switching element to the control unit.
9. The display device of claim 1, further comprising: a second controllable member overlapping the bendable portion, wherein the first controllable member overlaps a first region of the bendable portion, wherein the second controllable member overlaps a second region of the bendable por-

tion, and wherein the control unit is connected to the second controllable member and is configured to control a size of the second controllable member.

10. The display device of claim 9, further comprising:
 - a first switching element electrically connected between the control unit and the first controllable member; and
 - a second switching element electrically connected between the control unit and the second controllable member.
11. The display device of claim 9, wherein the control unit is configured to provide a second signal to control the size of the second controllable member, and wherein a value of the second signal is unequal to a value of the first signal when the control unit provides first signal and the second signal simultaneously.
12. The display device of claim 9, wherein the control unit is configured to provide a second signal to control the size of the second controllable member, and wherein a value of the second signal is determined according to a surface condition of the second region of the bendable portion.
13. An electronic device comprising:
 - a first body member;
 - a foldable display member overlapping the first body member and including a first portion, a second portion, and a bendable portion, wherein the first portion is connected through the bendable portion to the second portion;
 - a controllable member overlapping the bendable portion; and
 - a control unit connected to the controllable member and configured to provide a signal to control a size of the controllable member according to a magnitude of an angle between the first portion and the second portion.
14. The electronic device of claim 13, wherein the first body member includes a flexible portion, and wherein the controllable member is disposed between the bendable portion and the flexible portion.
15. The electronic device of claim 13, further comprising:
 - a hinge; and
 - a second body member connected through the hinge to the first body member,
 wherein the controllable member is disposed between the bendable portion and the hinge.
16. A method for controlling a surface structure of a foldable display device, the foldable display device comprising a foldable display member, the method comprising:
 - determining a magnitude of an angle between two portions of the foldable display member; and
 - according to the magnitude of the angle, providing a first signal to a first controllable member to control a size of the first controllable member, the first controllable member overlapping a bendable portion of the foldable display member, the two portions of the foldable display member being connected to each other through the bendable portion of the foldable display member.
17. The method of claim 16, wherein the first signal controls the first controllable member to enlarge if the angle is reduced, and wherein the first signal controls the first controllable member to contract if the angle is enlarged.
18. The method of claim 16, further comprising:
 - determining a value of the signal using a stored relation that specifies mapping between magnitudes of the angle and values of the signal; and
 - updating the stored relation according to degradation of the bendable portion.